STATEMENT OF WORK
Waste Treatment Lagoon (359)
Oklahoma

These deliverables apply to this individual practice. For other planned practice deliverables refer to those specific Statements of Work.

DESIGN

Deliverables:

1. Design documentation that will demonstrate that the criteria in NRCS practice standard have been met and are compatible with other planned and applied practices
   a. Practice purpose(s) as identified in the conservation plan
   b. List of required permits to be obtained by the client
      - Oklahoma Department of Agriculture, Food and Forestry must approve waste management plans for licensed animal feeding operations in Oklahoma
      - Other permits may be required depending on the location of the facility
   c. Compliance with NRCS national and state utility safety policy (National Engineering Manual (NEM) Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06 and NEM Oklahoma Supplement Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities, OK503.02)
      - Oklahoma engineering worksheet *OK-ENG-45 Utilities Inventory Form* will be used to document utilities
   d. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
      i. Geology and Soil Mechanics (NEM Subpart 531a)
         - *OK-ENG-60 Animal Waste Site Evaluation* or equivalent will be used to document geologic and soils investigation (refer to AWMFH Appendix 10D, pages 10D-38 through 10D-40)
         - Soil samples are required to be sent to a soil mechanics lab for testing to determine:
           - Properties of earthfill materials
           - Moisture and compaction requirements
           - Sealing requirements if required
         - A copy of the *OK-ENG-60 Animal Waste Site Evaluation* and soil mechanics report must accompany the design documentation
      ii. Capacity
         - Storage and treatment volume
         - Maximum and minimum operating levels
      iii. Structural, Mechanical and Appurtenance
         - Earthfill and excavation quantities
         - Material quantities (pipelines, fencing, signage, etc.)
         - Pump down marker dimensions and drawing
      iv. Maximize clean water diversion away from waste treatment lagoon
      v. Environmental Considerations (e.g. air quality, bio-security)
      vi. Vegetation requirements (see Critical Area Planting (342) Statement of Work)
      vii. Safety Considerations (NEM Part 503-Safety, Subpart B, 503.10 through 503.13)
2. Written plans and specifications including sketches and drawings shall be provided to the client that adequately describes the requirements to install the practice and obtain necessary permits
   - Oklahoma standard drawing *OK-DWG-401 Waste Treatment Lagoon with Clay Liner* will be used for typical rectangular waste treatment lagoons

- Oklahoma standard drawing *OK-DWG-400 Pump Down Post Design for Waste Retention Facilities* will be used for all waste treatment lagoons designed in Oklahoma
- Site specific drawings and specifications shall be prepared by the designer for all other waste treatment lagoons with special design configurations. Site specific non preapproved drawing shall be approved by the State Conservation Engineer

3. Design Report and Inspection Plan as appropriate (NEM Part 511, Subpart B Documentation, 511.11 and Part 512, Subpart D Quality Assurance Activities, 512.30 through 512.32)
4. Certification that the design meets practice standard criteria and comply with applicable laws and regulations will be signed by an employee with appropriate approval authority for design assigned on Form OK-ENG-1 or OK-ENG-1 (NEM Subpart A, 505.3)
    - Oklahoma engineering worksheet *OK-ENG-57a Waste Treatment Lagoon Design Data Worksheet* will be used to document lagoon and liner design data and information
5. Operation and Maintenance Plan
6. Design modifications during installation as required

INSTALLATION

Deliverables

1. Documentation of pre-installation conference with client and contractor
2. Verification that client has obtained required permits
3. Staking and layout according to plans and specifications including applicable layout notes
4. Installation inspection (according to inspection plan as appropriate)
    a. Actual materials used (Part 512, Subchapter D - Quality Assurance Activities, 512.33)
    b. Inspection records
    c. Maintaining a job diary with dates and record of inspections made, testing completed, instructions provided to the contractor, etc., to document compliance with standards and specifications. Documenting in the assistance notes in the plan is acceptable
5. Facilitate, implement and document required design modifications with client, original designer, regulatory and funding agencies
6. Advise client/NRCS on compliance issues with all federal, state, tribal, and local laws, regulations and NRCS policies during installation
7. Certification that the installation process and materials meets design and permit requirements

CHECK OUT

Deliverables

1. Supporting documentation
    a. Completed job diary or assistance notes documenting inspections made, testing completed, materials used, etc.
    b. Survey notes for layout, inspections, and final checkout documenting compliance with standards and specifications
        i. Layout survey
            - Establish a baseline and temporary bench mark to reference the layout survey to
            - Set temporary markers such as flags or stakes at the bottom and top corners of the designed impoundment and write the required cut or fill on each marker

- Set temporary markers at points extended out from the corners where the cut slopes zero out at natural ground

ii. Construction checks and inspections
- As needed to insure installation is in compliance with standards and specifications
- At a minimum construction check survey and documentation will be required when the subgrade has been completed prior to placement of liner material and following the completion of each lift of liner material

iii. Final checkout survey
- At least one lateral and one longitudinal cross section with sufficient readings to determine slopes, top and bottom dimensions and elevations
- Cross sections will extend over the embankment and continue to natural ground to determine embankment top width and slopes
- Profile the entire length of the embankment including a cross section of the auxiliary spillway to determine the as-built elevations of the embankment and auxiliary spillway
- Document on *OK-DWG-401 Waste Treatment Lagoon with Clay Liner* or equivalent

c. As-built drawings with changes from the original drawing clearly shown

d. Extent of practice units applied and location identified on a map

e. Vegetation certification or schedule documented on OK-ECS-04 – Vegetative Data Worksheet

f. Final quantities

2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits will be signed by an employee with appropriate approval authority for construction assigned on Form OK-ENG-1, OK-ENG-1 a, or by special letter. (NEM Subpart A, 505.39(c)(1)) Document on *OK-DWG-401 Waste Treatment Lagoon with Clay Liner* or equivalent

3. Progress reporting

REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard - Waste Treatment Lagoon, 359
- NRCS Agricultural Waste Management Field Handbook (AWMFH)
- NRCS National Engineering Manual (NEM).
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook